

<b>Notice of Allowability</b>	Application No.	Applicant(s)	
	10/541,120	DOSANJH ET AL.	
	Examiner Junpeng Chen	Art Unit 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTO-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to Amendmenst/Arguments dated 02/16/2007.

2.  The allowed claim(s) is/are 1-9 and 16 (Renumbered as 1-10 respectively).

3.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)  All    b)  Some\*    c)  None    of the:

1.  Certified copies of the priority documents have been received.

2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.

3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5.  CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.

(a)  including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached

1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_\_.

(b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

#### Attachment(s)

1.  Notice of References Cited (PTO-892)
2.  Notice of Draftsperson's Patent Drawing Review (PTO-948)
3.  Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date 11/01/2006
4.  Examiner's Comment Regarding Requirement for Deposit  
of Biological Material

5.  Notice of Informal Patent Application
6.  Interview Summary (PTO-413),  
Paper No./Mail Date 05/01/2007.
7.  Examiner's Amendment/Comment
8.  Examiner's Statement of Reasons for Allowance
9.  Other \_\_\_\_\_.

### **DETAILED ACTION**

1. This Office Action is in responsive to the communication dated 02/16/2007. Claims 10-15 are cancelled by Applicant. Claim 16 is added. Currently, claims 1-9 and 16 are pending.

#### ***Information Disclosure Statement***

2. The information disclosure statement submitted on 11/01/2006 has been considered by the Examiner and made of record in the application file.

### **EXAMINER'S AMENDMENT**

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Shin Hung on 05/01/2007.

The application has been amended as follows:

- 1.) On line 2 of claim 1, limitation "shifting" has been amended to --shifted--.
- 2.) On line 12 of claim 1, limitation "sin" has been amended to --frequency-shifted cos oscillator signal--.
- 3.) On line 2 of claim 16, limitation "shifting" has been amended to --shifted--.
- 4.) On line 8 of claim 16, limitation "mixer mixer" has been amended to --mixer--.

5.) On line 11 of claim 16, limitation "first mixer" has been amended to --first harmonic rejection mixer--.

6.) On line 13 of claim 1, limitation "sin" has been amended to --frequency-shifted cos oscillator signal--.

7.) On lines 15 and 16 of claim 16, limitation "second mixer" has been amended to --second harmonic rejection mixer--.

***Allowable Subject Matter***

4. **Claims 1-9 and 16** are allowed.

5. The following is an examiner's statement of reasons for allowance:

Consider **claims 1-9**, the best prior art of record found during examination of the present application, McCullagh et al. (U.S. Pub # 2002/002465 A1) discloses frequency synthesizer comprising a dual channel frequency/regenerative divider but fails to disclose, teach or suggest the claimed limitations such as a first removal means for receiving said output signal of said first mixer and removing undesired frequency signals from said output signal, providing said frequency-shifted cos oscillator signal as an output; the frequency-shifted cos oscillator signal output of said removal means also being connected to the input of said divider; and a second removal means for receiving said output signal of said second mixer and removing undesired frequency signals from said output signal, thus providing said frequency shifted sin oscillator signal as an output.

Therefore, claims 1-9 of the present application are considered novel and non-obvious over the prior art and, consequently, are allowed.

Consider **claim 16**, the best prior art of record found during examination of the present application, McCullagh et al. (U.S. Pub # 2002/002465 A1) discloses frequency synthesizer comprising a dual channel frequency/regenerative divider but fails to disclose, teach or suggest the claimed limitations such as a first harmonic subtraction circuit for receiving said output signal of said first harmonic rejection mixer and removing undesired frequency signals from said output signal, providing said frequency-shifted cos oscillator signal as an output; the frequency-shifted cos oscillator signal output of said removal means also being connected to the input of said divider; and a second harmonic subtraction circuit for receiving said output signal of said second harmonic rejection mixer and removing undesired frequency signals from said output signal, thus providing said frequency shifted sin oscillator signal as an output.

Therefore, claim 16 of the present application is considered novel and non-obvious over the prior art and, consequently, is allowed.

### ***Conclusion***

6. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."
7. Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**Hand-delivered responses** should be brought to

Customer Service Window  
Randolph Building  
401 Dulany Street  
Alexandria, VA 22314

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Junpeng Chen whose telephone number is (571) 270-1112. The examiner can normally be reached on Monday - Thursday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Orgad can be reached on 571-272-7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Junpeng Chen  
J.C./jc

EDAN ORGAD  
PRIMARY PATENT EXAMINER

*Edan Orgad* 5/7/07